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DETERMINING ELECTORAL BOUNDARIES: SOME OBSERVATIONS

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Upon initial examination, the revision of electoral boundaries appears to be a relatively simple process; however, an investigation of this issue reveals its complexity. Even among western nations, there exists a myriad a varying criteria that are considered in the formulation of electoral boundaries. These range from the American emphasis on "one man, one vote", to the British emphasis on the retention of "local communities".[1] It is not possible, in a paper of this scope, to examine all the problems and ramifications inherent in a full examination of the reapportionment issue. Nonetheless, insofar as Alberta has recently held a general election, and as a redetermination of Alberta's provincial electoral boundaries is a possible occurrence within the next 12 months, it seems pertinent to examine the criteria outlined in Alberta's Electoral Boundaries Commission Act[2] and briefly discuss them in comparison to those used by other countries, along with some of the complications they entail.

Alberta's electoral boundaries are determined by a specially appointed Electoral Boundary Commission whose function is to "make proposals to the Legislative Assembly as to the area, boundaries and names of the electoral divisions of Alberta."[3] The members of the Commission make these proposals in accordance with a variety of rules set out in the Act. A discussion of the Electoral Boundary Commission and the rules that it follows to determine the boundaries introduces two issues which have been the subject of some debate among scholars. Without particular emphasis on the Albertan, or even on the Canadian method of determining boundaries, these two issues focus on the objectivity

of those individuals formulating the boundaries, and on the criteria they use to do the formulations. A general discussion of the methods and criteria used in the United States and Great Britain provides the background with which to compare the Alberta experience.

Under the American redistricting system, the state Assemblies bear the responsibility of performing necessary reapportionments.[4] Critics of this system have been quick to point out that there is an obvious element of partisanship involved in any arrangement in which incumbents are involved in rearranging the electoral districts.[5] There are numerous examples of gerrymandering within the various 50 states.[6] A response to this situation is the introduction of computer based redistricting agencies; that is, the introduction of a non-partisan agency to determine electoral boundaries. There have been numerous programs suggested, and it is useful to outline their major advantages; however, it is first necessary to examine the methods used in Great Britain.

It should be noted that the redistricting problem is far more complex than the foregoing would suggest. For example, the American reapportionment problem has been compounded by the fact that many states were malapportioned for years simply because the states often refused to redistrict.[7] In Great Britain, Boundary Commissions are appointed to handle the redistribution of parliamentary constituencies. The most common criticism levelled against the Commission appears to be on the grounds of the criteria it bases its redistricting on, rather than on the construction of the Commission itself, but

there have been suggestions that the system would benefit from the application of computer technology.[8]

There are various criteria that are considered in the formation of electoral boundaries. In the United States in the early 1960's, a number of court cases were settled in the Supreme Court. These cases addressed the problem in which constituencies of very unequal populations gave rise to citizens possessing unequal voting powers. In 1964, the Supreme Court through its unequivocal support behind the principle of one vote, one value; that is, equal representation was to be of paramount importance in the determining of electoral boundaries.[9] It is for their failure to adhere to this standard, that the United Kingdom Boundary Commissions have been criticized.[10] As the discussion regarding alternative criteria unfolds, it becomes increasingly evident that the concern being expressed with regard to the American, the British, or for example, the Australian electoral system is that they do not allow for the fair representation of the entire electorate.

There is an intrinsic difficulty involved in attempting to satisfy the various criteria; indeed, some of them are conceivably impossible to reconcile.[11] It is important to know these criteria for an understanding of the computer districting plans that have been proposed; therefore, it is useful to outline the usual criteria. The concept of equality of population between electoral districts has already been mentioned, but it is worth reiterating. Other criteria include an emphasis on contiguity and compactness, thus allowing for ease of transportation and communication; and an emphasis on homogeneity of population, that is, an emphasis on

the retention of community.[12] The underlying supposition behind the application of computer technology to electoral redistricting is that computers provide a non-partisan method of reconciling these somewhat conflicting set of criteria. It might also be noted that advocates of the equal population idea admit the necessity of paying attention to existing political and natural boundaries when formulating electoral boundaries. Thus, it is usually acknowledged that there will be some deviation in population between districts; however, the allowable extent of that deviation differs between observers. Many critics consider a 25% deviation allowance between districts to be too extreme, and would advocate something closer to a 15% deviation allowance.[13] It must also be noted that there is no standard definition for population. Some areas use actual population, whereas others use voting lists.

To combat discrepancies and disallow human subjectivity, various scholars have advocated the use of computer programming. There has been a fair amount of work done in this area, and numerous methods have been suggested.[14] Of these, there are four principal methods which are: the Kaiser-Nagel method, the Weaver-Hess method, the Forrest method, and the Hale-Whitney method.

The Kaiser-Nagel method differs from the other three methods in that it works with existing electoral units.[15] It then adds or subtracts peripheral population units until all the districts meet the population equality standard. Its greatest advantage lies in the fact that it causes the least disruption of the political status quo.

In the Weaver-Hess method, natural centres of population are

identified and combined into districts with the proper population allowance. This method discourages gerrymandering, and meets the criteria of contiguity and compactness (in terms of population). Unlike the Kaiser-Nagel method, the Weaver-Hess method does involve disturbing existing electoral districts; however, it also makes allowance for the creation of new ones.

The Forrest method is considered the most mechanical of the four being considered. The method generates an electronically produced map of electoral districts using population equality as its only criteria. There is no allowance made for political or social considerations.

In the Hale-Whitney method a circular district is created in the centre of an urban area. From the midpoint of the circle, a ray of the necessary radius is rotated. This area is divided into pie-shaped wedges of approximately equal population. The constituencies are thus purposely heterogeneous in character. This method raises a concern that will be discussed more fully below, namely the concern over rural urban differences and representation. That is, the Hale-Whitney method blends rural and urban interests into one electoral district. This aspect of the method would have to be further examined before it would be utilized on any large scale.

Indeed, the truth of the matter is that the use of computers to determine electoral boundaries is still in the investigative stages.[16] However, many scholars view it as a promising prospect primarily because, although each method emphasizes a different aspect of the aforementioned criteria, computers do offer a non-partisan approach to boundary determination.

The objectivity of the computer would seem to offer fair representation to everyone, provided of course that the correct combination of criteria had been programmed into the method chosen for boundary selection. Interestingly enough, some researchers into electoral districting have indicated that a non-partisan approach is not necessarily the most equitable.[17] What their research indicates is that there are three types of districting agencies: partisan, non-partisan, and bi-partisan. Their analysis of these three types reveals that only a bi-partisan approach is actually "fair" to all parties running in an election. In essence, they find that the Boundary Commissioners are not politically neutral. They are not intentionally partisan, but the effect of their non-partisan behaviour is such that it provides results very similar to those achieved had they behaved in a partisan manner.

What this establishes, is the difficulty of coordinating a fair and equitable system of electoral boundary redistricting. Of course, underlying this difficulty is the suggestion that perhaps an alternative voting method would produce a better and more equitable form of representation than does the plurality system currently in use in Canada.[18] A discussion of various voting methods is a topic beyond the scope of this discussion, but it is a useful point to keep in mind.

Alberta, as an examination of the Electoral Boundaries Commission Act indicates, is subject to a variety of criteria in the determination of its electoral boundaries. Certainly it does not adhere strictly to the equal population provision prominent in the United States. There are 79 electoral divisions in Alberta, 43 are urban electoral divisions and

36 rural divisions.[19] In the November 2, 1982 General Election, the electoral riding of Calgary McCall had 42,524 names on the list of Electors compared to the rural riding of Little Bow which listed 8,168.[20] This discrepancy naturally raises the issue of rural over-representation. An in-depth examination of Alberta's electoral composition would be necessary to determine whether, and to what extent rural over-representation exists in Alberta; however, it is interesting to note that scholars have attributed a tendency to overweight rural ridings to Alberta's political composition in the past.[21]

The Electoral Boundaries Commission Act does contain different provisions for rural and urban areas, but that is not an unusual occurrence. The Commission certainly attempted to formulate the rural areas into as equitable units as possible, sometimes to the disappointment of residents in rural areas. In the 1976 redistricting, the areas of Sedgewick-Coronation and Hanna-Oyen were merged into one seat under the name of Chinook. As the Commissioners expressed it, they received concerns about the loss of a seat from the area's residents; that is, "the problem in the east central area arises from the Legislature's decision eliminating one rural seat somewhere in the Province to try and establish a close voting relationship between urban and rural voters."[22] Other countries have experienced similar problems. The difficulty usually consists of a steady drop or lack of growth in population in rural areas which would justify the loss of a seat on the grounds of insufficient population, but because the resultant electoral region would be very large in area, the seat is retained. To add these areas onto a nearby

electoral division would not solve the problem. First, the resultant area would be too large, and second, the possibility that these voters would become isolated and ignored cannot be dismissed. The Electoral Boundaries Commission Act makes special provision for sparsely populated areas by stating that "as far as is practicable, the Commission shall establish the boundaries of the proposed rural electoral divisions so that all proposed rural electoral divisions are as nearly as possible equal in voter population, but in dealing with the more sparsely populated areas of Alberta the Commission shall endeavour to avoid establishing proposed rural electoral divisions that are larger than the existing electoral divisions in those areas."[23] Interestingly, an Australian scholar has noted that rural over-representation may be justified on the basis of the rural disabilities thesis. That is, on the basis that rural dwellers do not have access to the extra-legal resources that urban dwellers possess and thus require "additional" representation. However, as he indicates, this thesis remains unproven.[24]

The Electoral Boundary Commission in Alberta is subject to various redistribution rules, some of which have already been mentioned. The Commission must ensure that the boundaries of proposed urban electoral divisions do not extend beyond the municipal boundaries of the urban area. Furthermore, the urban electoral divisions are established so as to be nearly equal in voter population. If the voter population is more than 25% below the average voter population of the other urban divisions, the boundaries may be extended beyond those of the municipality. Thus, the Commission is to strive to achieve urban areas that are nearly

equal in population, and similarily rural areas that are equal in population wherever possible. Finally, when determining boundaries the Commission is to take the following into consideration: "the community or diversity of interests of the population; the means of communication between the various parts of the community; the physical features of the community; the sparsity or density of population; and all other similar or relevant factors."[25] Comparing this to the above noted criteria, it would appear that the Alberta Electoral Boundary Commission must evaluate in terms of a wide range of criteria. The examination of current electoral divisions does not indicate that equality of population is the major consideration, except in cases where there are no over-riding considerations. That is, having a manageable area with regard to distance and internal communication would appear to be more important than having electoral districts equal in voter population. Given this wide range of criteria it is doubtful whether a computer programmed electoral map would be a viable idea. It has been noted by a geographer that "the more categories that are added, the more the final districts are compromised between the various considerations...these additional categories greatly... affect the regional boundaries."[26]

The composition of the Commission is a mixture of individuals chosen by the Lieutenant Governor in Council, the Speaker of the Assembly, the Leader of Her Majesty's Loyal Opposition, and including the Chief Electoral Officer. This would appear to give a range of political interests, thus ensuring that boundaries are established that do not favour any single

political group. In order to establish that assumption one way or the other, it would be necessary to study electoral results and boundary changes for the last several years. Insofar as there has not been a great many boundary changes in the last few years, it would be interesting to closely examine the existing areas and evaluate how closely they follow the provisions of the Act.

In conclusion, it is obvious that Alberta has a relatively complex criteria and method for determining electoral boundaries. It is an area of interest because of the changing population base in the province. Not only do people move from rural to urban areas, but from other provinces to Alberta and vice versa. Indeed, by the time the next redistribution is completed some areas, even urban ones, may actually have experienced a population decline. Alternatively, the expansion of suburbs (for example, Edmonton Millwoods) will almost certainly require boundary changes, and provide for further investigations to determine whether suburbs are under-represented. As noted at the outset, the revision of electoral boundaries is an issue of great complexity and ultimately deserving of further study.

FOOTNOTES

[1]The American and British boundary criteria are discussed in a variety of the bibliographic materials. See for eg. James K. Pollock, "Reapportionment and Fair Representation," in Reapportioning Legislatures: A Consideration of Criteria and Computers, ed. Howard D. Hamilton (Columbus, Ohio: Charles E. Merrill Books, Inc., 1966), p. 11; Congressional Quarterly Service, Representation and Apportionment (Washington, D.C.: Congressional Quarterly, Inc., 1966), pp. 3-4; on Britain see Gwyn Rowley, "The Redistribution of Parliamentary Seats in the United Kingdom: Themes and Opinions," in Area 7 (1975), pp. 16-21; C. Ross Cope, "Regionalisation and the Electoral Districting Problem," Area 3 (1971), p. 191.

[2]Electoral Boundaries Commission Act, C. E-4, Revised Statutes of Alberta 1980. Hereafter abbreviated as c. E-4.

[3]c. E-4, subsection 3.

[4]Vivian Vale, "The Computer as Boundary Commissioner?" Parliamentary Affairs 22 (1969), p. 241.

[5]Peter J. Taylor and Graham Gudgin, "A Fresh Look at the Parliamentary Boundary Commissions," Parliamentary Affairs 28 (1975), p. 407.

[6]For eg. see the essays in Malcolm E. Jewell, ed., The Politics of Reapportionment (New York: Prentice-Hall, Inc., 1962). Also, see the discussion in Congressional Quarterly Service, eg. pp. 51,52.

[7]For a discussion of this, see Congressional Quarterly Service, p. 52; David O. Walter, "Reapportionment and Urban Representation," The Annals of the American Academy of Political and Social Sciences 195 (January 1938), pp. 12,13,17,18.

[8]See Rowley, pp. 16-21; Vale, pp. 242-243.

[9]This topic is discussed in a variety of works. For eg. Vale, p. 240; Congressional Quarterly Service, pp. 11-24, 54-57; Timothy G. O'Rourke, The Impact of Reapportionment (New Brunswick, New Jersey: Transaction, Inc., 1980), pp. 1-25.

[10]Rowley, p. 16; see also R.D. Osborne, "Parliamentary Seat Redistribution," Area 7 (1975), pp. 199-201; and P.J. Taylor and R.J. Johnston, Geography of Elections (New York: Holmes and Meier Publishers, Inc., 1979), pp. 345-349.

[11]This has been observed, for eg., by Rowley, pp. 17-18; also, Gwyn Rowley, "Parliamentary Seat Redistribution Elaborated ..." Area 7 (1975), pp. 279-280; And Howard D. Hamilton, ed., Reapportioning Legislatures: A Consideration of Criteria and Computers (Columbus, Ohio: Charles E. Merrill Books, Inc., 1966), p. 2.

[12]Rowley, p. 17.

[13]See Rowley, p. 18; and esp. John Anthony Long, "Maldistribution in Western Provincial Legislatures: The Case of Alberta," Canadian Journal of Political Science 2 (June 1969), pp. 353-355.

[14]For eg. see C. Ross Cope, pp. 190-195.

[15]The description of the four computer methods is derived from Vale, pp. 243-248; and Myron Q. Hale, "Computer Methods of Districting," in Reapportioning Legislatures: A Consideration of Criteria and Computers, ed. Howard D. Hamilton (Columbus, Ohio: Charles E. Merrill Books, Inc., 1966), pp. 103-111.

[16]Vale, p. 248.

[17]Taylor and Gudgin, pp. 407-415; see also William Vickrey, "On the Prevention of Gerrymandering," Political Science Quarterly 76 (1961), p. 105.

[18]Examples of alternatives can be found in Andrew Treusch and Kathryn Randle, "How Elections Elect: A Guide to Electoral Systems," Parliamentary Government 1 (1980), pp. 3-5.

[19]c. E-4, subsection 11.

[20]Office of the Chief Electoral Officer, The Report of the Chief Electoral Officer on the 1982 General Election Held Tuesday, November 2, 1982, pp. 17, 22.

[21]Long, p. 345.

[22]The Electoral Boundaries Commission, Final Report of the Electoral Boundaries Commission, 3 Session, 18 Legislature, 12 November 1976, p. 2.

[23]c. E-4, subsection 18(1).

[24]See John D. May, "Democracy and Rural Over-Representation," Australian Quarterly 46 (June 1974), pp. 52-56; and John D. May, "Rural Over-Representation: Pros and Cons in Recent Australian Debate," The Journal of Commonwealth and Comparative Politics 13 (July 1975), pp. 132-145. For an example of rural over weighting and gerrymandering see Dean Jaensch,

"A Functional 'Gerrymander' -- South Australia, 1944-1970," The Australian Quarterly 42 (December 1970), pp. 96-101.

[25]c. E-4, subsection 19.

[26]William Bunge, "Gerrymandering, Geography, and Grouping," The Geographical Review 56 (1966), p. 261.

BIBLIOGRAPHY

Bunge, William. "Gerrymandering, Geography, and Grouping." The Geographical Review 56 (1966). Pp. 256-263.

Congressional Quarterly Service. Representation and Apportionment. Washington, D.C.: Congressional Quarterly, Inc., 1966.

Cope, C. Ross. "Regionalisation and the Electoral Districting Problem." Area 3 (1971), pp. 190-195.

The Electoral Boundaries Commission, Final Report of the Electoral Boundaries Commission, 3 Session, 18 Legislature, 12 November 1976.

Electoral Boundaries Commission Act. c. E-4, Revised Statutes of Alberta 1980.

Hale, Myron Q. "Computer Methods of Districting," in Reapportioning Legislatures: A Consideration of Criteria and Computers, ed. Howard D. Hamilton. Columbus, Ohio: Charles E. Merrill Books, Inc., 1966. Pp. 96-124.

Hamilton, Howard D., ed. Reapportioning Legislatures: A Consideration of Criteria and Computers. Columbus, Ohio: Charles E. Merrill Books, Inc., 1966.

Jaensch, Dean. "A Functional 'Gerrymander' -- South Australia, 1944-1970." The Australian Quarterly 42 (December 1970). Pp. 96-101.

Jewell, Malcolm E., ed. The Politics of Reapportionment. New York: Prentice-Hall, Inc., 1962.

Long, John Anthony. "Maldistribution in Western Provincial Legislatures: The Case of Alberta." Canadian Journal of Political Science 2 (June 1969). Pp. 345-355.

May, John D. "Democracy and Rural Over-Representation." Australian Quarterly 46 (June 1974). Pp. 52-56.

_____. "Rural Over-Representation: Pros and Cons in Recent Australian Debate." The Journal of Commonwealth and Comparative Politics 13 (July 1975). Pp. 132-145.

Office of the Chief Electoral Officer. The Report of the Chief Electoral Officer on the 1982 General Election Held Tuesday, November 2, 1982.

O'Rourke, Timothy G. The Impact of Reapportionment. New Brunswick, New Jersey: Transaction, Inc., 1980.

Osborne, R.D. "Parliamentary Seat Redistribution." Area 7 (1975). Pp. 199-201.

Pollock, James K. "Reapportionment and Fair Representation," in Reapportioning Legislatures: A Consideration of Criteria and Computers. Columbus, Ohio: Charles E. Merrill Books, Inc., 1966. Pp. 6-13.

Rowley, Gwyn. "Parliamentary Seat Redistribution Elaborated ..." Area 7 (1975). Pp. 279-281.

_____. "The Redistribution of Parliamentary Seats in the United Kingdom: Themes and Opinions." Area 7 (1975). Pp. 16-21.

Taylor, Peter J. and Gudgin, Graham. "A Fresh Look at the Parliamentary Boundary Commissions." Parliamentary Affairs 28 (1975). Pp. 405-415.

Taylor, P.J. and Johnston, R.J. Geography of Elections. New York: Holmes & Meier Publishers, Inc., 1979.

Treusch, Andrew and Randle, Kathryn. "How Elections Elect: A Guide to Electoral Systems." Parliamentary Government 1 (1980). Pp. 3-5.

Vale, Vivian. "The Computer as Boundary Commissioner?" Parliamentary Affairs 22 (1969). Pp. 240-249.

Vickrey, William. "On the Prevention of Gerrymandering." Political Science Quarterly 76 (1961). Pp. 105-110.

Walter, David O. "Reapportionment and Urban Representation." The Annals of the American Academy of Political and Social Sciences 195 (January 1938). Pp. 11-20.